



Docket No.: UIOWA-0050

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of :  
: Johna LEDDY and Pengcheng ZOU : Group Art Unit: 1773  
: Serial No.: 10/662,873 :  
: Filed: September 16, 2003 : Customer No.: 34610  
: For: MAGNETICALLY MODIFIED ELECTRODES AS WELL AS METHODS OF MAKING  
AND USING THE SAME

**INFORMATION DISCLOSURE STATEMENT**

U.S. Patent and Trademark Office  
2011 South Clark Place  
Customer Window  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, Virginia 22202

Sir:

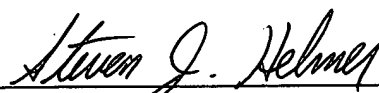
Pursuant to 37 C.F.R. 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. One copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the indicated date. Applicant reserves the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, that information cited in the statement is considered to be and/or is material to patentability, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is further understood that the Examiner will consider information that was cited or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. §120. 1138 OG 37, 38 (May 19, 1992).

- X 1. This Information Disclosure Statement is being filed (i) within three months of the U.S. filing date of a U.S. application other than a CPA continued prosecution application under §1.53(d) OR (ii) within three months of the date of entry of the national stage as set forth in §1.491 in an international application OR (iii) before the mailing date of a first Office Action on the merits. No certification or fee is required. 37 C.F.R. §1.97(b).
- 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection OR Notice of Allowance OR an action that otherwise closes prosecution in the application. 37 C.F.R. §1.97(c).
- a. I hereby state that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. 1.97(e)(1).

- ☐ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. 1.97(e)(2).
- ☐ c. Attached is our check no. \_\_\_\_\_ in the amount of \$180.00 in payment of the fee under 37 C.F.R. 1.17(p). Please credit or debit Deposit Account No. 16-0607 as needed to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.
- ☐ 3. This Information Disclosure Statement is being filed after the mailing date of a Final Rejection OR Notice of Allowance OR an action that otherwise closes prosecution in the application, but on or before payment of the Issue Fee. Attached is our check no. \_\_\_\_ in the amount of \$180.00 in payment of the fee under 37 C.F.R. 1.17(p). Please credit or debit Deposit Account No. 16-0607 as needed to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached. 37 C.F.R. §1.97(d).
- ☐ a. I hereby state that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. 1.97(e)(1).
- ☐ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. 1.97(e)(2).
- ☐ 4. Others:
- ☒ 5. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
FLESHNER & KIM, LLP

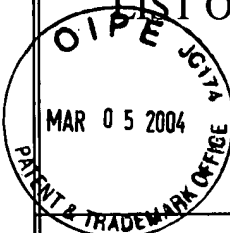
  
Donald R. McPhail  
Registration No. 35,811  
Steven J. Helmer  
Registration No. 40,475

P.O. Box 221200  
Chantilly, Virginia 20153-1200  
703 766-3701

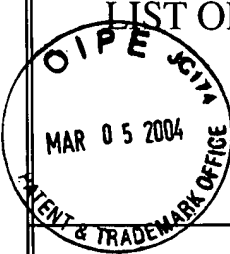
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Date: March 5, 2004

**Please direct all correspondence to Customer Number 34610**

 <p><b>LIST OF PRIOR ART CITED BY APPLICANT</b> (PTO-1449)</p>				ATTY. DOCKET NO. <b>UIOWA-0050</b>		APPLN. SERIAL NO. <b>10/662,873</b>	
				APPLICANT(S) <b>Johna LEDDY and Pengcheng ZOU</b>			
				CUSTOMER NO. 34610			
				FILING DATE <b>September 16, 2003</b>		GROUP <b>1773</b>	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	*PATENT NO.	*ISSUE DATE	*INVENTOR NAME	CLASS	SUBCLASS	FILING DATE	
	6,355,166 B1	03/12/02	AMARASINGHE et al.	210	223	10/29/99	
	6,106,963	08/22/00	NITTA et al.	429	19	05/05/98	
	6,479,176 B2	11/12/02	LEDDY et al.	429	10	06/29/01	
	5,871,625	02/16/99	LEDDY et al.	204	290 R	06/06/96	
	6,322,676 B1	11/27/01	LEDDY et al.	204	296	03/25/98	
	6,303,242 B1	10/16/01	LEDDY et al.	429	10	12/10/99	
	5,817,221	10/06/98	LEDDY et al.	204	290 R	02/05/96	
	5,786,040	07/28/98	LEDDY et al.	427	598	04/01/96	
	3,811,952	05/21/74	SIWERSSON et al.	136	86 A	06/20/73	
	3,853,628	12/10/74	FOX	136	86 D	07/26/73	
	4,037,022	07/19/77	CHERON	429	10	05/06/76	
	4,201,827	05/06/80	HEITKAMP	428	283	11/23/77	
	3,409,471	11/05/68	F.V. STURM et al.			06/18/64	
	5,869,200	02/09/99	NUNNALLY	429	10	08/12/97	
<b>U.S. PATENT APPLICATION PUBLICATIONS</b>							
	*PATENT APPLN. PUB. NO.	*PUB. DATE	*APPLICANT	CLASS	SUBCLASS		
<b>U.S. PATENT APPLICATIONS</b>							
	*APPLN. NO.	*FILING DATE	*INVENTOR	CLASS	SUBCLASS		
<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
	WO01/99127A2	12/27/01	WIPO				
	JP 11323654	11/26/99	Japan (Full Japanese Text)			Abst	
	JP 2000030743	01/28/00	Japan (Full Japanese Text)			Abst	
	JP 2001252553	09/18/01	Japan (Full Japanese Text)			Abst	
	JP 2001155746	06/08/01	Japan (Full Japanese Text)			Abst	
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Publisher, Place of Publication, Etc.)</b>							
	Lois Anne Zook, "Morphological Modification of Nafion for Improved Electrochemical Flux," Thesis, December 1996, pp. 1-134.						
EXAMINER				DATE CONSIDERED			

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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						Yes	No
	JP 10106581	04/24/98	Japan (Full Japanese Text)			Abst	
	EP 0980105	021600	EPO				
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Publisher, Place of Publication, Etc.)</b>							
	Nicholas J. Turro et al., "Magnetic Field and Magnetic Isotope Effects in Organic Photochemical Reactions. A Novel Probe of Reaction Mechanisms and a Method for Enrichment of Magnetic Isotopes," Acc. Chem. Res., 1980, Vol. 13, pp. 369-377.						
	W.B. Gu et al., "Modeling discharge and charge characteristics of nickel-metal hydride batters," Electrochimica Acta 44, 1999, pp. 4525-4541.						
	A.L. Buchachenko, "Magnetic Effects in Chemical Reactions," Russian Chemical Reviews, May 1976, Vol. 45(5), pp. 375-390.						
	Wayne L. Gellett et al., "Facilitation of CO Oxidation on Pt-Impact of Magnetic Fields," The Electrochemical Society, Inc., Abs. 1430, 204 <sup>th</sup> Meeting. (presented October 21, 2002)						
	Johna Leddy et al., "Magnetic Ion Exchange Polymer Composites: Transport Enhancements Driven by Non-Uniform Magnetic Fields and Magnetic Moments of Transported Molecular and Ionic Species," 37 <sup>th</sup> Power Sources Proceedings, 1996, pp. 93-95.						
	Alexander H. Tullo, "Maintaining A Charge," C&EN Northeast News Bureau, July 15, 2002, pp. 25-26.						
	Lester B. Lave et al., "Environmental Implications of Electric Cars," Science, Vol. 268, May 19, 1995, pp. 993-995.						
	Robert F. Nelson, "Power requirements for batteries in hybrid electric vehicles," Journal of Power Sources, 2000, Vol. 91, pp. 2-26.						
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EXAMINE R'S INITIALS	*PATENT NO.	*ISSUE DATE	*INVENTOR NAME	CLASS	SUBCLAS S	FILING DATE	
<b>U.S. PATENT APPLICATION PUBLICATIONS</b>							
	*PATENT APPLN. PUB. NO.	*PUB. DATE	*APPLICANT	CLASS	SUBCLAS S		
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	*APPLN. NO.	*FILING DATE	*INVENTOR	CLASS	SUBCLAS S		
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EXAMINE R'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLAS S	Translation	
						Yes	No
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Publisher, Place of Publication, Etc.)</b>							
	D.A.J. Rand, "Battery Systems for Electric Vehicles - A State-of-the-Art Review," Journal of Power Sources, 1979, Vol. 4, pp. 101-143.						
	Hongge Pan et al., "Effect of magnetization treatment on the electrochemical properties of $\text{La}_{0.9}\text{Sm}_{0.1}\text{Ni}_{2.0}\text{Co}_{3.0}$ electrode alloy," Journal of Alloys and Compounds, 2001, Vol. 327, pp. 136-140.						
	Johna Leddy et al., "Magnetically Modified Fuel Cells," 39 <sup>th</sup> Power Source Proceedings, 2000, pp. 144-147.						
	Jianxin Ma et al., "New method to improve the electrochemical properties of hydrogen storage electrode alloy," SciFinder Scholar, Jinshu Xuebao, 2001, 37(1), pp. 57-60 (Abstract only).						
	V.I. Markarov et al., "Magnetic properties of powders, and their electrochemical activity," SciFinder Scholar, Tr. Novocherkassk. Politekh. Inst., 1970, 208, pp. 100-103 (Abstract only).						
	Masahiro Yamaguchi et al., "Effect of a magnetic field on the emf. of a Ni-MH secondary battery," Tohoku Daigaku Kinzoku Zairyo Kenkyusho Kyojiba Chodendo Zairyo Kenkyu Senta Nenji Hokoku, 1992, 329-333 (Abstract only).						
	Kanya Yamazaki et al., "Secondary nonaqueous electrolyte batteries containing magnetic additives," JP10106577, April 24, 1998 (Abstract only).						
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